Environment and Rural Affairs Monitoring & Modelling Programme (ERAMMP)

ERAMMP Document-88
Field-Survey Handbook (Procedures)
Birds

Siriwardena, G.M. & Bowgen, K.M.

British Trust for Ornithology

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Neu trwy sganio'r cod QR a ddangosir / Or by scanning the QR code shown.

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UKCEH contact details	Bronwen Williams UK Centre for Ecology & Hydrology (UKCEH) Environment Centre Wales, Deiniol Road, Bangor, Gwynedd, LL57 2UW 01248 374500 erammp@ceh.ac.uk
Corresponding author	Gavin Siriwardena gavin.siriwardena@bto.org
Authors	Siriwardena, G.M, & Bowgen, K.M. British Trust for Ornithology (BTO)
Contributing authors & reviewers	Sabine Reinsch, Angus Garbutt (UKCEH)
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Abbreviations Used in this Report

BTO	British Trust for Ornithology
BBS	Breeding Bird Survey
CBC	Common Birds Census
CS	Countryside Survey
ERAMMP	Environment and Rural Affairs Monitoring & Modelling Programme
GMEP	Glastir Monitoring & Evaluation Programme
NRW	Natural Resources Wales
OS	Ordnance Survey
UKCEH	UK Centre for Ecology & Hydrology

In this handbook the term "landowner" is used to refer to the person who has given permission to access the land, this may be the owner of the land, a land manager, tenant or agent.

Software screenshots in this handbook do not show actual square locations.

Abbreviations and some of the technical terms used in this report are expanded on in the programme glossaries:
https://erammp.wales/en/glossary (English) and https://erammp.cymru/geirfa (Welsh)

Contents

1   Introduction

1.1   Overview of Bird Surveys for ERAMMP

You are a member of the field teams undertaking survey work for the Welsh Government's Environment and Rural Affairs Monitoring & Modelling Programme (ERAMMP).

Bird surveys are being handled by the British Trust for Ornithology (BTO). The project is an all-Wales structured survey based on an intensive assessment of land use and biodiversity in a set of 1-km squares across Wales. The bird surveys will be carried out twice at each chosen 1-km square with the first survey being carried out in April to mid-May and the second between mid-May and late June. There should be a minimum of 10 days between the two surveys for any given 1-km square.

1.2   Data Sensitivity and Handling

Data provided and collected under this project are to be handled in STRICT CONFIDENCE.

This means that you can share or discuss what you have seen with the landowner[1] only, not with their neighbours or members of the public. Treat the field maps and completed datasheets with care: do not leave them lying around or visible to others. If asked for a copy of any document or record, you cannot comply; instead refer them to the Survey Office.

Do not mention or reveal the locations of the survey squares to anyone except project staff at BTO and UK Centre for Ecology & Hydrology (UKCEH).

Personal data (such as names, addresses and contract numbers) are also confidential and must be handled similarly carefully.

Do not publish on social media, blog or BirdTrack anything from the survey squares (although you are welcome to BirdTrack sightings from your routes to and from survey squares, using common sense over the situations).

1.3   Permissions

Surveyors will be provided with lists of squares to cover but need to schedule specific visits themselves. The BTO Ecologist and UKCEH Data Analyst will provide surveyors with "square packs" containing maps of areas of land where permission has been granted for the survey (Figure 1.1). All other land is out of bounds. Square packs will also include a table of contact details linked to areas where survey permission has been granted.

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[1] In this handbook the term "landowner" is used to refer to the person who has given permission to access the land, this may be the owner of the land, a land manager, tenant or agent.

Unless explicitly stated in the contact details table, surveyors should contact landowners whose land they will survey and express intent to visit their land 2-3 days (up to 7 days) before conducting a bird survey. Only contact details for landowners who granted permission are provided (green area on traffic light maps (Figure 1.1)). Land coloured red has had permission refused and you cannot enter it, orange land though listed "inconclusive" or "Null" should also be treated as permissions refused unless told directly by BTO/UKCEH.

You can enter Natural Resources Wales (NRW) land (shaded/hashed in pink on traffic light maps). Surveyors are to keep landowners informed of survey plans, and work around landowners if requested. Please provide a weekly update to the BTO Ecologist of which survey squares have been completed, and provide details to the UKCEH Field Survey Manager as well about access complications.

For landowners who have asked to be contacted in Welsh, please do so on your first call and if you aren't confident in certain aspects of technical vocabulary, ask if they would be happy for you to explain this in English. If you don't have enough fluency in Welsh to explain the purpose of your visit, please let the BTO Ecologist know, and they will arrange for contact to be made in Welsh. Due to staffing, this needs to be arranged the week beforehand, ideally by the end of Wednesday, and then calls will be made on Thursday (Friday if no answer) and relayed back to you asap. We realise that plans can change with the weather so give a rough estimate of the day you expect to visit and we'll ask the landowners for any days they don't want a surveyor on their land.
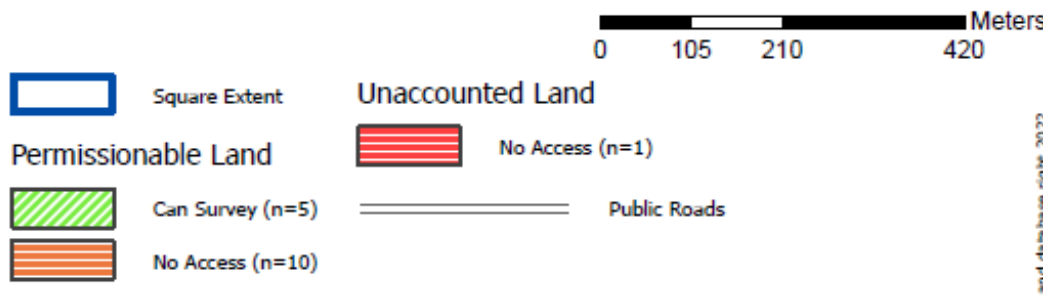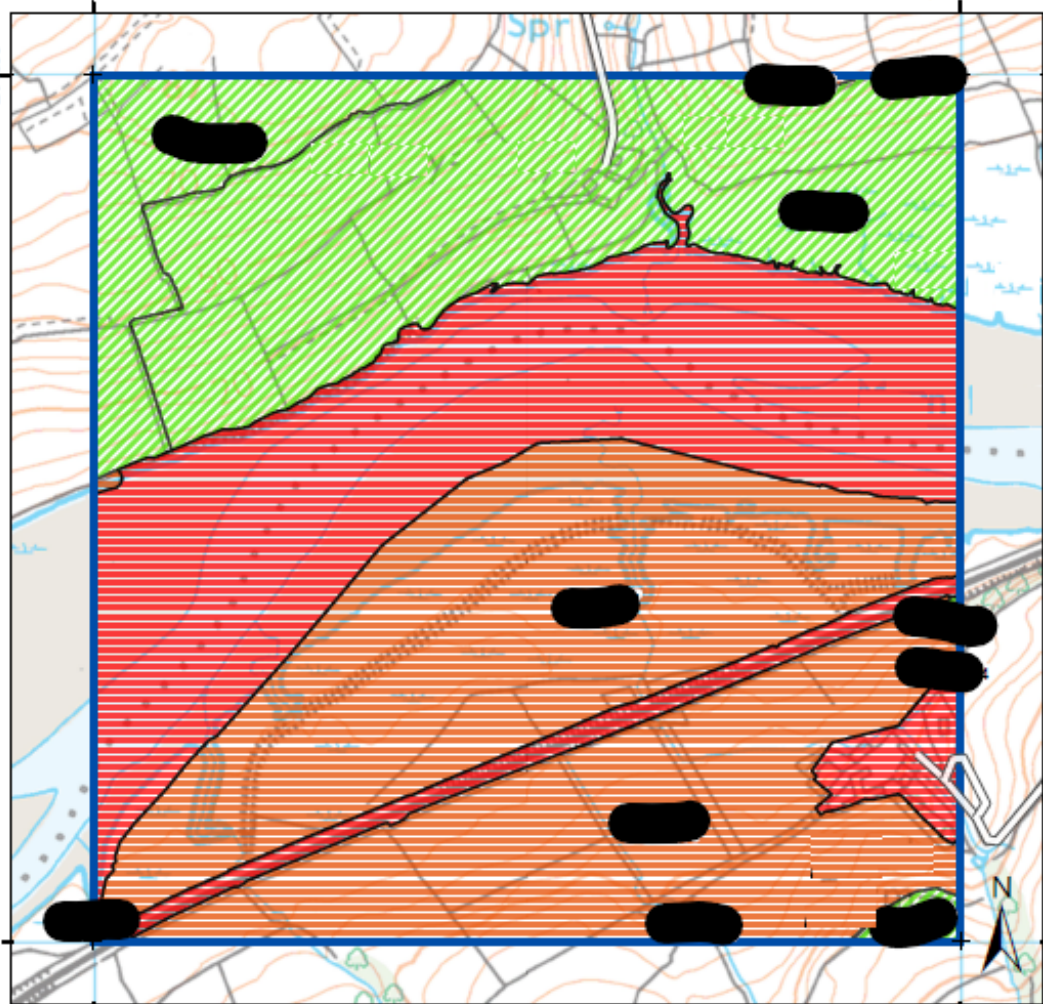
Landowners may ask to meet with the surveyors before a survey can be carried out. If a landowner wants to meet a surveyor, remind them of any current ERAMMP COVID-19 risk mitigation protocol. We have not budgeted for pre-survey 'meet and greet' visits to squares, so please minimise such trips and tie them into survey days at other squares nearby. Details of the current procedures will be provided ahead of survey start.

If a landowner cannot be reached via a call, surveyors are able to carry out the survey, but please ensure that you endeavour to get hold of them beforehand. If the surveyor leaves a message on an answering phone, please provide a phone number in case the landowner wants to call back.

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Welsh Government

Meters

0	105	210	420

Square Extent

Unaccounted Land

No Access (n=1)

Permissionable Land

Can Survey (n=5)   Public Roads

No Access (n=10)

Figure 1.1 Examples of "traffic light" maps showing areas where permission is granted for survey (green). Areas in red are where permission has been refused and orange shows where it wasn't possible to get a full answer and should be treated as for refused areas. NRW land can be accessed although not marked in green – identified by pink hashing. Location and landowner identifiers are blacked out in this example but are visible in the survey packs (sensitive/confidential information).

1.4   Contacting Landowners

- Phone landowners 2-3 days (up to 7 days) prior to the survey unless explicitly told otherwise.

- Explain that you are carrying out bird surveys on behalf of the British Trust for Ornithology and the UK Centre for Ecology & Hydrology, who have been contracted by the Welsh Government to survey farms in relation to the Glastir land management scheme, including farms not currently included in the scheme. Explain that they should have received a letter saying the survey was planned to take place.

- The landowner will also have been contacted by a company called "XSG Ltd"; the landowners may have granted permission over the phone. Alternatively, the landowners might have filled in an online questionnaire to grant permission.

- You may find that land has recently changed ownership, or that the contact supplied is not correct. When this is the case please get as much information as possible and pass this on to the UKCEH Field Survey Manager or BTO Ecologist so that they can update the records. Do not pursue new contacts without first informing the project team, and assume that access has not been granted unless you hear otherwise.

To help plan surveys it is advised to check the weather forecast in advance as a preliminary guide, although we appreciate that there will still be a need for a degree of flexibility around this. The following meteorological applications are recommended, should you have a smart phone:

www.raintoday.co.uk/
www.theyr.com/app.asp
www.xcweather.co.uk/
www.ventusky.com/

2   Spring Bird Survey

2.1   Aims

The bird surveys are intended to complete the ecosystem approach being led by UKCEH, which uses Countryside Survey (CS) methods to survey a randomly selected set of 1-km squares across Wales to monitor the wider environment. It is also intended to measure the effects of any Glastir management in the squares. These surveys use a more intensive approach than the "light touch" monitoring used by the Breeding Bird Survey (BBS), in order to reduce random influences on the bird species and numbers detected transect counts. This should mean that both temporal changes in bird numbers and associations with habitat (and habitat management) can be determined more accurately.

The survey is designed to produce data that are closer to measurement of true bird densities in the area with access permissions in each 1-km square, thus providing maximum power to detect associations between management and bird numbers, as well as between birds and the other ecosystem elements being monitored. BBS data will be complementary to this, providing background population context, such as information on national changes in abundance (e.g. due to weather effects), that is necessary in order to allow accurate interpretation of local changes. Together with the CS monitoring and comparison with ERAMMP data, they will permit evaluation of the relevant effects of Glastir on birds.

2.2   Methods

The main approach will consist of a **TWO**-visit territory mapping survey. Two survey visits will be conducted between early April and late June, to map the locations of breeding birds with respect to habitat and landscape features. These registrations will provide data on habitat (including Glastir management) use. Registrations will be combined across visits using the standard territory mapping protocol to estimate the total number of bird territories present in the survey area. This method is a distillation of the approach used for the BTO's Common Birds Census (CBC) between 1962 and 2000.

2.2.1   Detailed Methods

The aim is to record all birds in the square where permission was granted, so noting location and behaviour of all birds on each visit, for subsequent collation into territory maps or maximum counts (for non-territorial species). A3 maps of the survey squares (use one per survey visit) will be provided. Carrying clipboards on cord around the neck works well.

- ✓ Make two visits to each square, spaced up to a month and a half apart between beginning of April and end of June, but a minimum of 10 days.

- ✓ Aim to begin each visit by c. 6am (NB this will be too early for the earliest visits because sunrise is not until c. 0630 – appropriate alternative timings should be used instead). Avoid bad weather (rain, high winds) that is likely to affect counts or detection.

- ✓ Record weather conditions on each survey map: **precipitation** (none, intermittent, light and persistent), **temperature** (approximate 0-30˚C), **percentage cloud cover** (0-100%) and Beaufort **wind speed** (0-6). Record conditions at the start and at the

end of the survey visit and make an assessment of the average weather conditions over the whole visit.

✓ Walk along rights of way and, in areas with access permissions, along field boundaries. The aim is to follow a route that takes you within 50 m of each point within the square where access has been agreed. In open habitats (moorland), transect lines no more than 100 m apart can be followed. Doubling back is fine if needed (avoiding double-counting, of course).

✓ Record all birds seen and heard using standard CBC notation (singing, calling, flying, alarm-calling indicating presence of young, registrations believed to be of the same individual and those known to represent different individuals). Registrations of birds only noted in flight and not engaged in any territorial activity of behaviour in the square (e.g. high-flying gulls, corvids, etc), must be distinguished from species in display flight (e.g. Skylark, sparrowhawk). Birds that are noted in flight but landing, or were perched and then took flight, should be recorded using their perched locations and not recorded as flight records. Use BTO two-letter species codes (see Annex). Although we are fundamentally only interested in birds within the square boundary and only the area within the boundary needs to be covered (i.e. ideally routes do not need to pass closer than 50m of the boundary), record birds just outside the boundary as well, as they are encountered. This is because the same individual might be recorded within the square on another visit and we will only recognise this as part of a territory overlapping the square if we have records from all visits to allow us to identify that a territory is present. Example notation for a visit is shown in Figure 2.1. If a bird takes off whilst you are watching, please note the location it took off from on the map not where it was flying to.

✓ Start the survey route in a different place on each visit so that all areas are visited at least once before 0800. A suggested way to carry this out for squares with limited access points is to do the first clockwise and the second visit anti-clockwise. Each survey should take less than five hours, but the exact time will depend on the surveyable area and the habitat/bird density.

✓ Record the exact survey route followed on a map and highlight areas considered poorly covered or not covered; this will enable us to make sure that we know which parts of the square have been surveyed, where access is less than 100% for whatever reason. For example, an open area of 200 m across with survey routes along either edge might be considered "poorly covered" if it could be scanned from the boundaries such that large species can be seen but small ones not flushed, whereas a similarly-sized woodland with no access to the interior would probably best be considered as "not covered". Surveyors should use their judgement here as this variable will depend on subtle, local features, such as topography and vegetation height. Recording and standardising route coverage (where surveyors actually walk) is more important than standardising the exact order in which areas are covered.

✓ Land that has not had survey permission granted, but that can be overlooked from a public footpath or right of way can be surveyed from the path, but it must be noted on your maps that this was the case. Please note that some landowners have given explicit refusal of this methodology so this will not be possible in some places (you will be informed of this directly if it is the case in one of your allocated squares). Records from areas without permissions will be removed from the data prior to analysis.
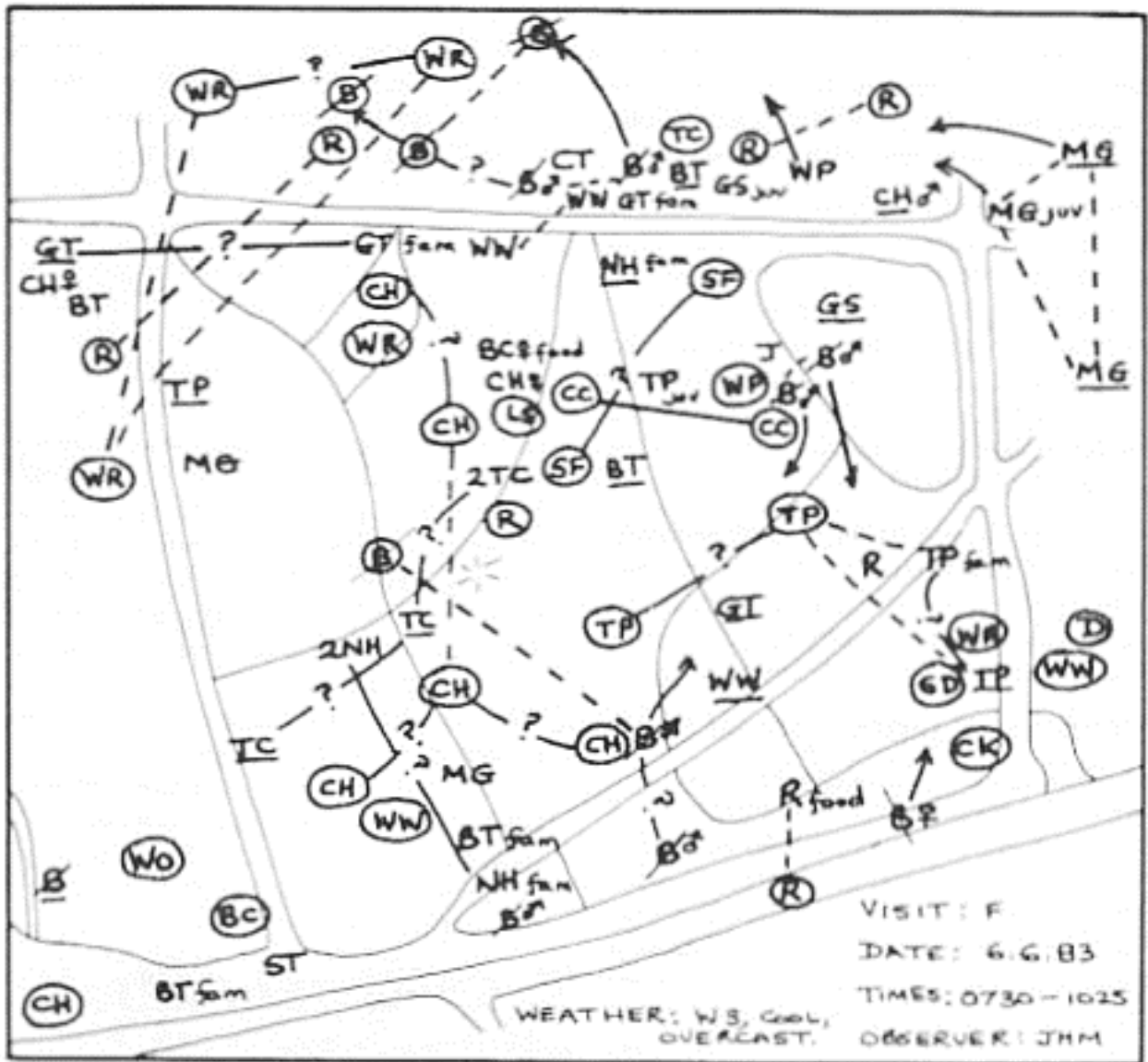
Figure 2.1. Example of a completed bird survey on a square using CBC notation.

2.2.2   CBC notation – list of activity codes

CH, CH♂, CH♀ 3CHjuvs, CH2♂1♀	Chaffinch sight records, with age, sex or number of birds if appropriate. Use CH♂ to indicated one pair of chaffinches , so that 2CH♂ means two pairs together.
R fam	Juvenile Robins with parent(s) in attendance
R̲	A calling Robin
R̲̲	A Robin repeatedly giving alarm calls or other vocalisations (not song) thought to have a strong territorial significance.
Ⓡ	A Robin in song
⁻RR⁻	An aggressive encounter between two Robins
✳ R	An **occupied** nest of Robins. Do not mark unoccupied nest, which are not of territorial significance by themselves
✷ BT	Blue Tits nesting in a specially provided site. Please remember to use this species symbol for a nest in a nest box
✳ PW on	Pied Wagtail nest with an adult sitting
PW mat	Pied Wagtail carrying nest material
PW food	Pied Wagtail carrying food

Movements of birds can be indicated by an arrow using the following conventions

⎯ GR ⟶	A calling Greenfinch flying over (seen only in flight)
Ⓓ ⟶	A singing Dunnock perched then flying away (not seen to land)
⟶B♂	A male Blackbird flying in and perching
WR⎯⎯⟶WR	A Wren moving between two perches. The solid line indicates this was **definitely the same bird**.

The following conventions indicated which registrations relate to different and which to the same individuals birds. Their **proper use will be essential for the accurate assessment of clusters**

ⓌR---- ⓌR	Two Wrens in song at the same time, i.e. **definitely different** birds. The dotted line indicates **simultaneous registration (**or contemporary contact) and is of very great value in separating territories.
✳----✳ LI LI	Two Linnet nests **occupied** simultaneously, and thus belonging to different pairs. This is another example of the value of dotted lines. Only adjacent nests need to be marked in this way.
ⒸK⎯⎯ⒸK	The solid line indicates that the registrations definitely refer to the same bird.
ⓈD⎯?⎯ⓈD	The question-marked solid line indicates that the registrations relate to **probably the same** bird. This convention is of particular use when your census route brings you back past an area already covered – it is possible to mark new positions of (probably the same) birds recorded before, **without risk of double-recording**. If you record birds without using the question-marked solid line, **over-estimates of territories** will result.
ⓌR WR mat	No line joining the registrations – it will be assumed that the birds are **probably** different, but depending on the pattern of other registrations they may be treats as if only one bird was involved. (You may if you wish use a question-marked dotted line, indicating that the registration were almost certainly of different birds.)
C✳ C✳	Where adjacent nests are marked without a line, it will often be assumed that they were first and second broods, or a replacement nest following an earlier failure.

2.2.3   Sensitive breeding species

If you record a Schedule 1 species that you think is breeding in your survey square, please let the BTO Ecologist know as soon after the survey as possible. If necessary, alter your survey route to avoid disturbance (a buffer distance of 100 m should be sufficient). BTO will communicate this buffer zone to the other field teams.

2.2.4   Footpaths and coastal footpath condition

We have been asked to record footpath condition and access as each square is surveyed. Fill in footpath condition after your first or second visit on a separate recording sheet. Please use the following codes to indicate footpath and coastal footpath condition. You do not need to visit every inch of every footpath, but please annotate the ones you use (or attempt to use!) or walk past in each survey square. **Use a different colour of ink for paths you walk down versus those you simply observe**. In either case, draw a line along the length of path to which the code refers and join the code to the line with an arrow.

- **OS – Open, Signed –** the footpath is clearly marked and easy to use (stiles or gates in fences, not overgrown etc).

- **ON – Open, Not signed –** although the footpath is easy to use, it is not marked with footpath markers and you need an OS map to find and follow it.

- **PS and PN – Poor, (Signed or Not signed)** for footpaths that are open if the walker is sufficiently determined – fallen trees, encroaching brambles etc. make the path hard or unpleasant but not impossible to use).

- **BS – Blocked, Signed –** the footpath is permanently blocked (fence, hedgerow, overgrown with vegetation) despite signs indicating its presence; it cannot be used (add this code at the point where the footpath is blocked if it was initially open, using arrows to indicate the section affected).

- **BN – Blocked, Not signed –** the footpath is non-existent despite being marked on the OS map.

- **WD – Water (tide or flood) damage –** particularly important on coastal paths, please mark all instances of damage (path washed away, undermined etc.) and please record comments if there are signs of repairs, restoration, signage, or alternative routes marked and available.

Please also note any other relevant points about accessibility or condition of paths not covered by the above.

This additional set of recordings will only be carried out on the first visit and not required to be completed again on the second. Access and condition is not particularly seasonally sensitive, although if there are any significant changes, please do note these down and highlight them to us.

2.3   Conditions under which recording should be undertaken

As mentioned earlier, surveys should ideally be started around 6 am (depending on dawn and before 9 am) and end before 12 pm (midday). Avoid the 30-minute periods before and after dawn when the chorus affect makes differentiating individual birds very difficult and early afternoon when bird activity is low.

Cold, windy or wet days are to be avoided but showery days can make acceptable census weather, since birds are often quite active after each shower. But it is important to protect your maps and work in **pencil** during this type of weather – we recommend a WeatherWriter™ style clipboard (www.weatherwriter.co.uk/). Note the weather conditions on your forms (precipitation, percentage cloud cover and wind speed) for both the start and end.

2.4   Paperwork for bird surveys on ERAMMP squares

- ERAMMP notice for your vehicle

- This project field instructions sheet

- Copy of ERAMMP letter sent to landowners (for information only)

- Instructions for any biosecurity procedures

- Disinfectant pre-diluted in spray bottle

- Disinfectant instructions, information, MSDS sheets

- Your list of squares, with grid references to help you find each one

- List of contact details for landowners in each square

- For each square assigned to you:

    - ✓ A4 colour access permissions map
    - ✓ A4 colour aerial photograph (habitat reference)
    - ✓ A4 colour map (showing land ownerships)
    - ✓ 4 x A3 OS boundaries maps (1 colour, 3 greyscale) - for recording birds in the field on each of two visits, plus one for footpath condition (all greyscale) and one spare (colour)

2.5   Example Weekly and Daily Plan

1. Identify which squares you plan to survey in the following/coming week.

2. Contact all landowners to explain you will be coming to survey for ERAMMP and give an expected date. Take the opportunity to ask if there are any livestock issues that may arise (cattle, horse etc.) on their land so you can plan around these. You may also ask for parking options if needed.

3. Plan your routes across the land and make sure you have all the maps needed for each visit. Make sure you have disinfectant bottle ready for use.

4. Let the BTO Ecologist know which squares you plan to visit in the next week via email.

5. On the day of your visit, call PeopleSafe before you leave where you've parked detailing your location, square number and timings for the visit.

6. Spray your boots before you enter into the farmers land – ideally spray between different landowner's fields.

7. Carry out your survey.

8. Once back at the car, call into PeopleSafe again to cancel the visit, spray boots again and pack up! Clean and spray vehicle tires before leaving a farm yard (follow biosecurity instructions).

9. Once back enter in all data collected that day, if you are pushed for time you may do this another day, but always within a week to make sure any idiosyncrasies with your

writing/square aren't forgotten. NEW FOR 2023: please tick off the species you have seen on the Google sheet provided, including the code used if not a standard BTO one.

10.   At the end of the week let the BTO Ecologist know again what you've completed and what you plan to do the following week.

2.6   Personal Safety

On the day, use PeopleSafe standard call safety arrangements.

Record the **UKCEH square number** on your PeopleSafe message alongside the time you made this and the time you expect to finish. If you are in an area without signal leave enough time to get back to signal but also feel free to set up a text messaging service with the BTO Ecologist to confirm when you leave and arrive as texts can be sent with much weaker phone signals than a phone call.

Read the fieldworker handbook before starting any work to help remind you of tips and suggestions.

2.7   Biosecurity

You have been given a bottle of concentrated disinfectant (with instructions) and a spray bottle. Read the safety sheets and instructions for general disinfection (dilution is one tablet to 500 ml of water). Carry only the diluted disinfectant with you – the additional tablets can be left at home and replaced when necessary.

1.   Check whether the landowner has their own biosecurity measures and comply with these.

2.   Make sure vehicles are clean especially if they are being taken onto farm premises.

3.   Whilst we ask that you don't park in farmyards/near farm buildings, if this is unavoidable, clean and disinfect car wheels on entering the farm (if parking in farmyard) and also disinfect on the edge of the premises when leaving (e.g. at the bottom of the farm drive just before going onto the public road).

4.   Clean and disinfect footwear on entering the farm and also before leaving (it's very important farmers see this is being done even if at times it appears unnecessary e.g. if you've disinfected boots on leaving one farm and you then have to disinfect on arriving at the next).

5.   When your survey route crosses farm boundaries, please spray your footwear at the boundary.

6.   Disinfectant should only be applied after dirt has been washed/brushed off and make sure your boot surfaces are wetted with disinfectant.

7.   Use only the supplied disinfectant (you should have plenty and it keeps well) and if you need more tablets let the BTO Ecologist know.

2.8   Online Data Entry

Data entry must be carried out on devices provided and administered by BTO. You will be given a BTO laptop to use for the duration of the project, this should be kept in a secure location at home and only used to carry out ERAMMP-related activities, principally data entry.

Both the bird data and footpath condition are entered into the same online maps and the instructions to use these are given below. One map needs to be completed per visit per square.

The instructions below should be understandable but if you have any questions, or are worried that you might have made a mistake after pressing 'submit', please email the **BTO Survey Manager** directly. **Any sections with a red * by them have to be filled** in to submit the form. We recommend marking entered birds with a yellow highlighter on your forms so that double entry doesn't occur but you can still read them.

NB: Though data entry will be retained by the online webpages, hard copies of data, on paper forms, should be retained and returned to BTO at the end of the survey year.

2.9   ArcGIS Field Maps Instructions

The link to access the form is:
https://experience.arcgis.com/experience/0a961b71963f46898210959d4b198f8c/

1.   This new form requires a unique log-in which will be provided to you directly. Enter your username and password and click "Sign In" to access the data entry maps.
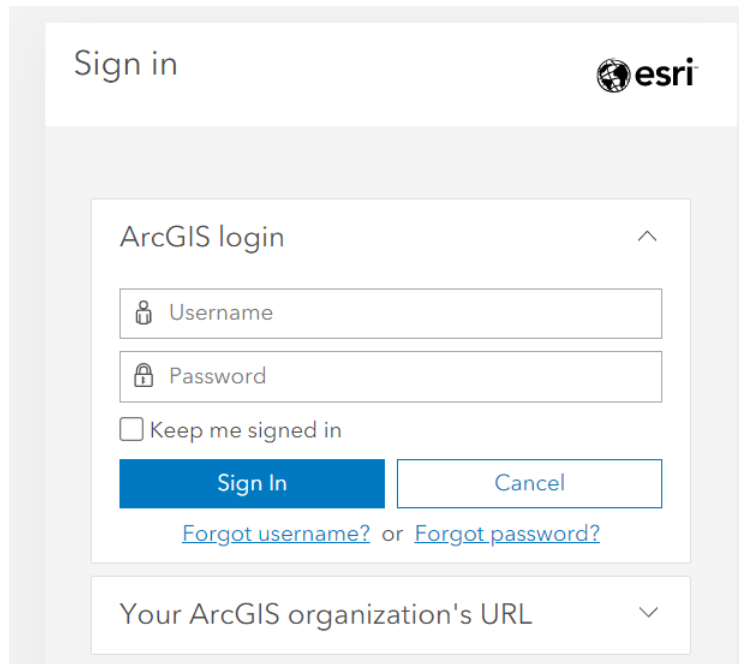
2. Once Signed in, you will see the data entry map with an OS basemap, buttons to select Visit 1 or 2, a search box for your Square ID, a log out button and an editing bar to the right hand side. You can zoom in and out on the map using either the buttons on the top left (+ and -) or the scroll button on mouse.
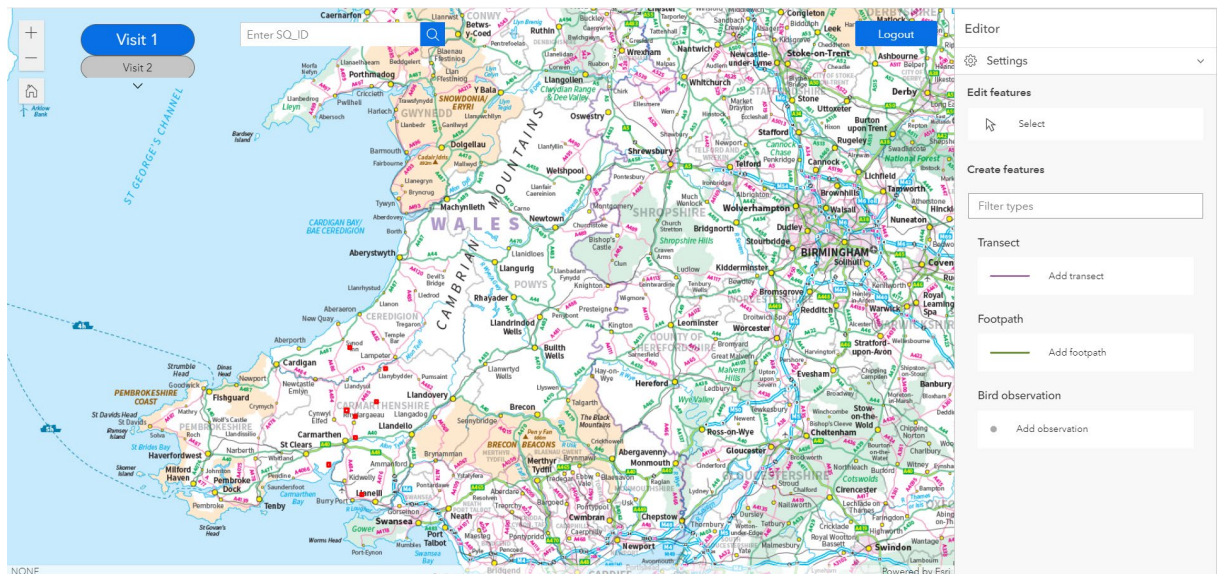

3. Select Visit 1 or 2 depending on which data you are working on and enter your square ID from the top of your sheet into the search bar – then either press the enter key on your keyboard or click the blue search button (a circle with a line, a magnifiying glass) to the right.

4. You will now find yourself at your square selection and there should be a grey panel to your right which will allow you to enter visit data – dates, times, weather etc. Once you have finished entering press the "update" button which should now be a bolder blue. You can then view the square ready for entering transects and birds. After pressing update, the square should turn red rather than light blue, but you may have to "click off"/"click away" from the square on an different piece of map to see this.
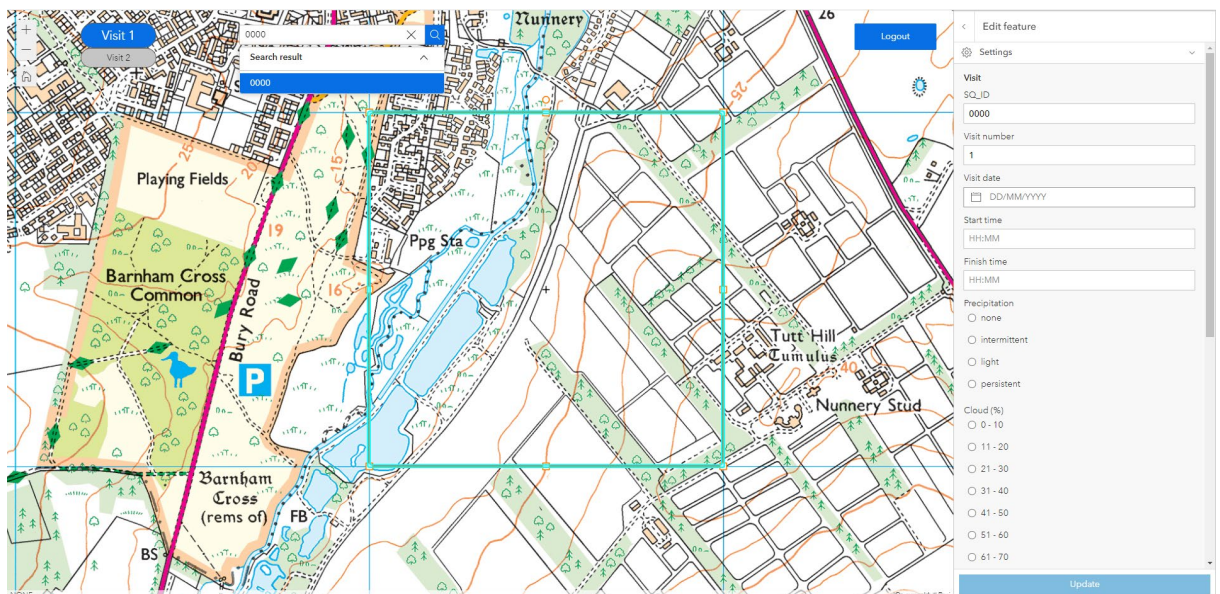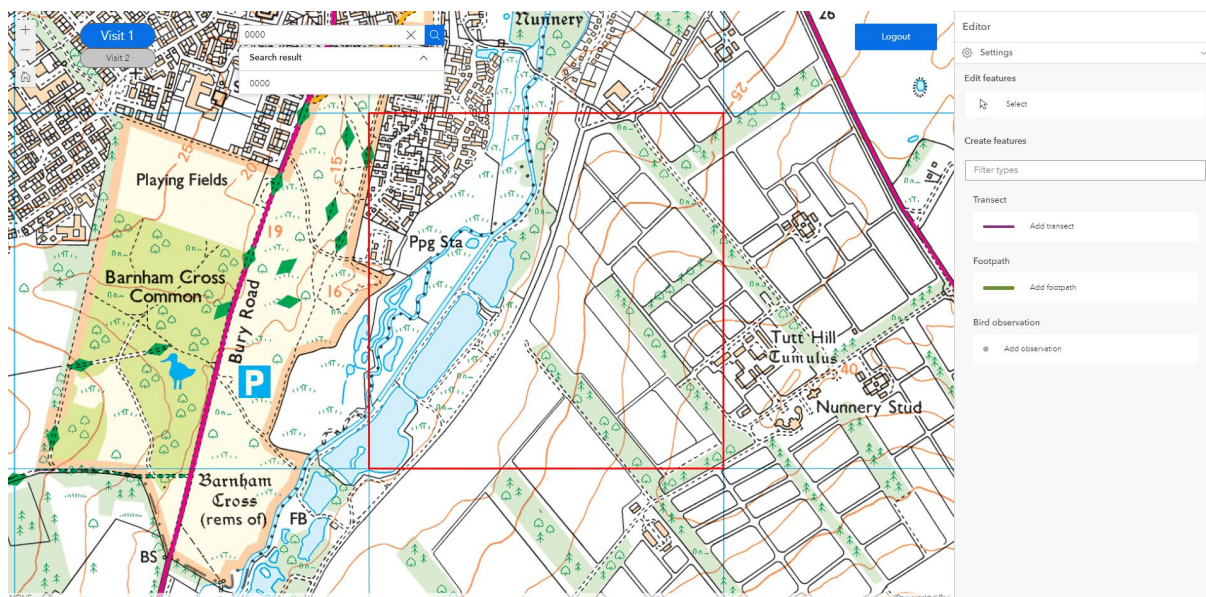
5. Start by adding the transect that you walked. Click on the "Add transect" section in the Editing bar to the right. Then, starting with where you began your survey transect in the square (when your started recording birds) click and let go to make the first point then move away to see a dashed "black and white" line connecting you to this. Click on to the next point on your transect in a straight line and for each bend, curve you've taken click again and create your route. When you have finished your route, or if you need to make two routes as you stopped and moved elsewhere in the square to start (normally happening when permissions are difficult), double click to finalise this route then press "Create" in blue on the bottom right in the editing bar to compete this section. How to correct any mistakes will be explained further on.
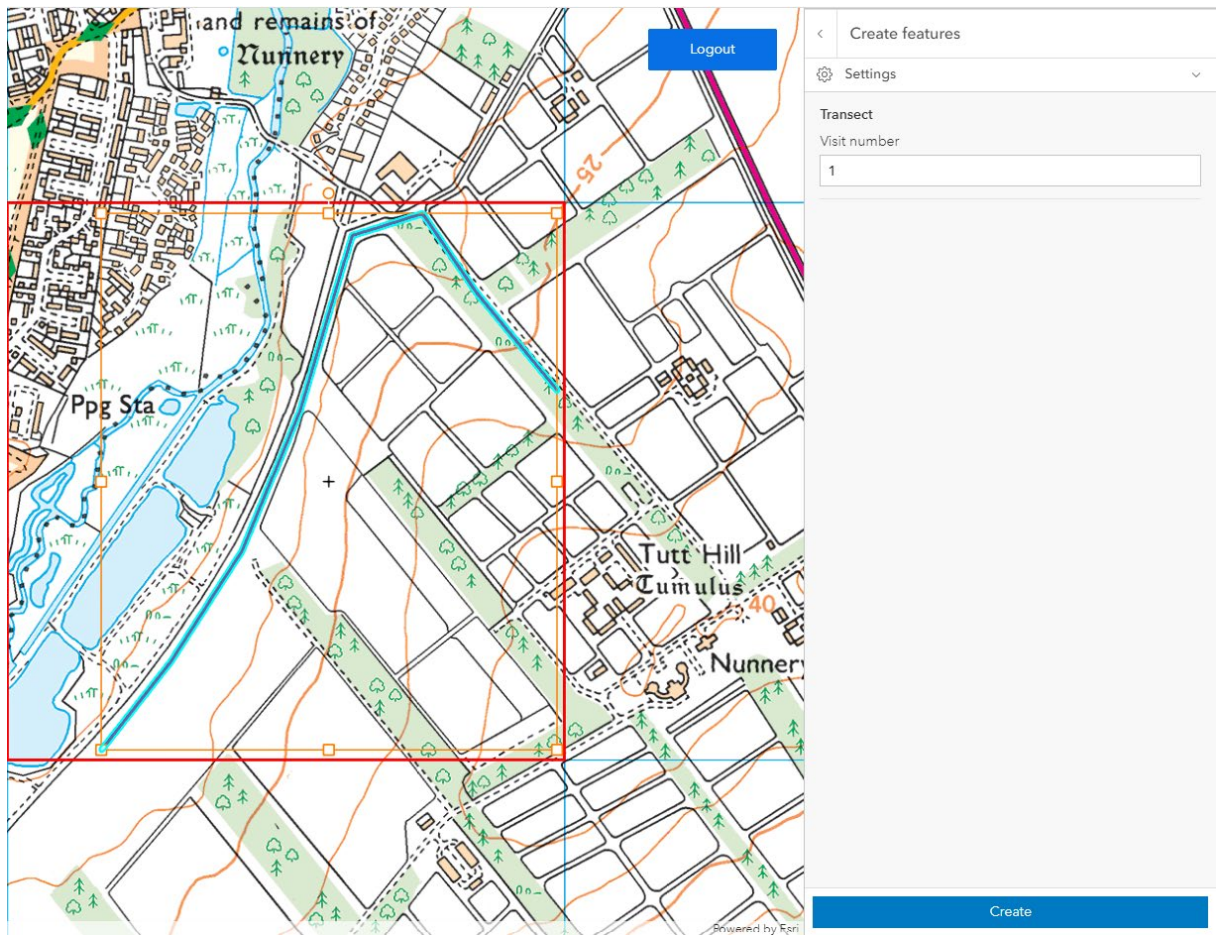
6. Footpaths and associated information can be entered in the same way as for your transect. Select "Add footpath" from the right hand panel then click along the footpath you surveyed (or part surveyed) until happy, double click to confirm and then before your press "Create", select the appropriate option from the right hand menu that will have now appeared.

It is possible to edit your footpath and transect lines afterwards, you can click on the lines themselves and then you'll have the option to edit the points (right click each to remove it or just move them around).
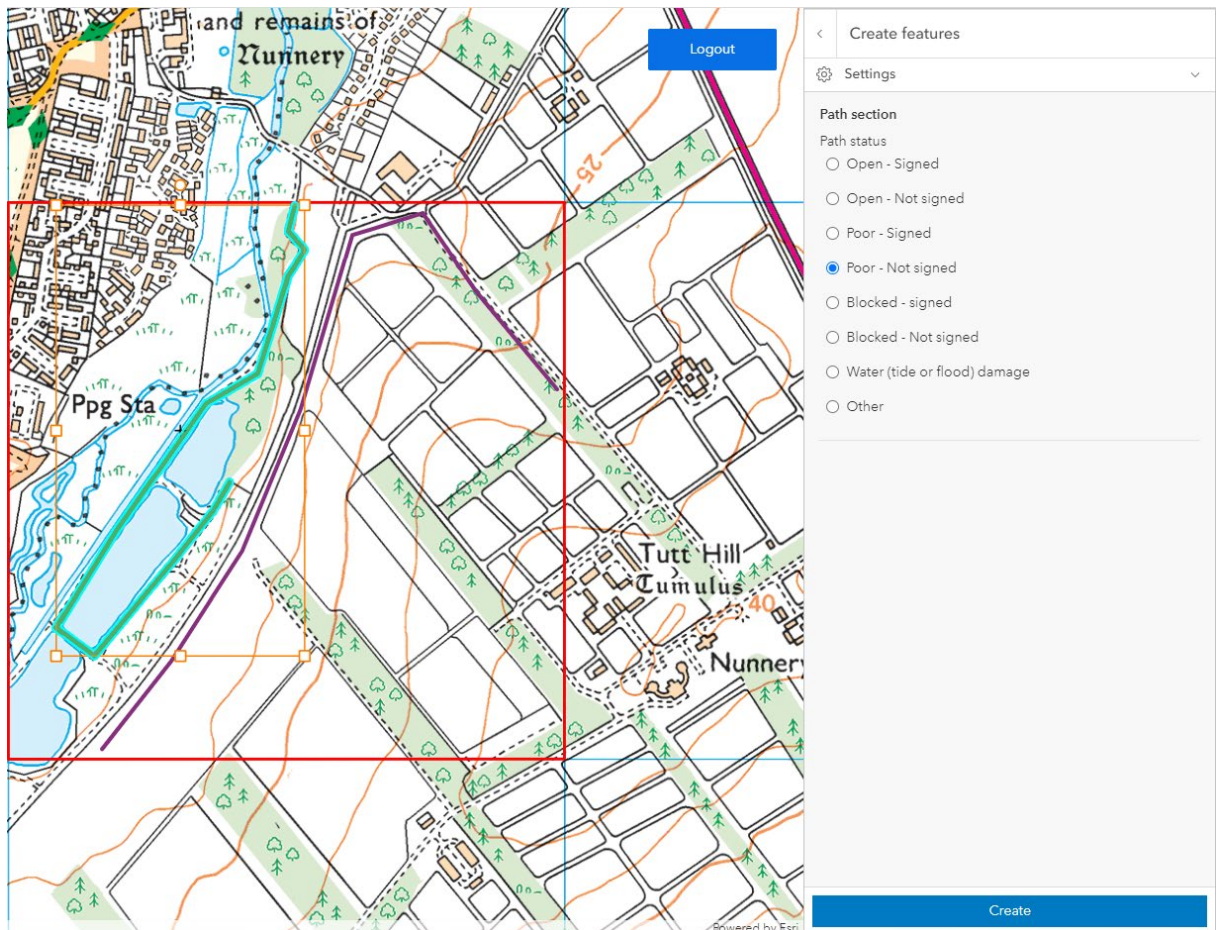
7. Bird observations can be added using the "**add observation**" selection from the right hand panel. Click on the place you saw the bird, and the menu on the right will update to allow you to choose i) the **species** (the dropdown can be typed into for searching), ii) the **sex** or **pair** if seen, iii) the number of birds seen at once ("**Quantity**"), iv) notifying us if the bird is the **same** or **probably the same** as another (make a note of the number you use to link to the next observation of this bird), iv) the birds **activity**.

For the bird's "**activity**" select the behaviour most relevant or if more than one select all that apply. Press create when you are finished and the dot indicating your new sighting will appear on the screen.

The "**same**" box is to identify birds that have been recorded twice within the same square and you are certain they are the same. Please use a enter a number (1-99) in this box and use the same number for the second record of the same bird so they can be identified as the same in our subsequent analyses. The "**probably the same**" box works in a similar way but is where you are less certain this is the same bird – please use a number between 100-200 here.
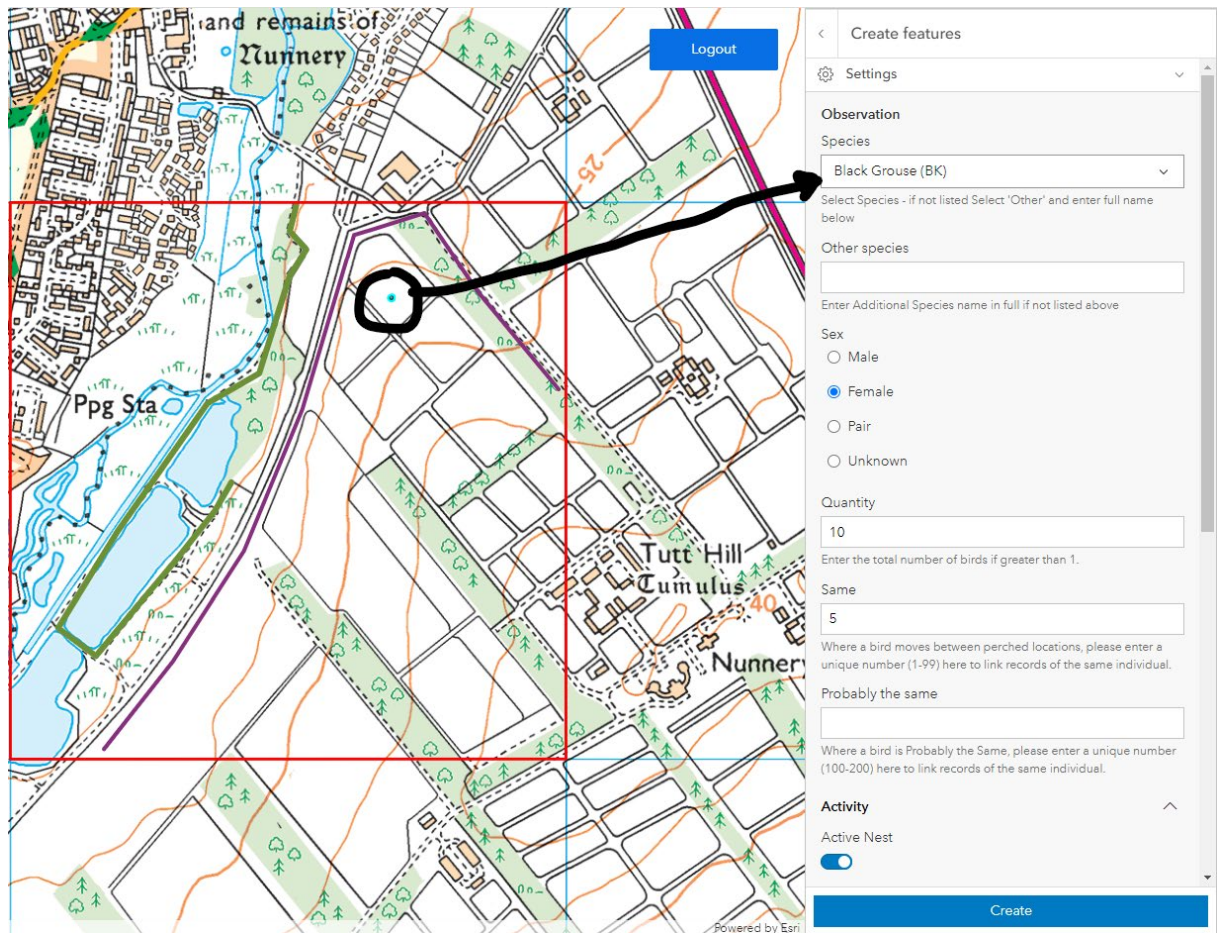
8. If you have made a mistake but you haven't pressed create yet, select the back arrow at the top of the right hand editor and this will ask you if you want to "Continue editing" or "Discard edits". Select discard if you want to get rid of this and start again.
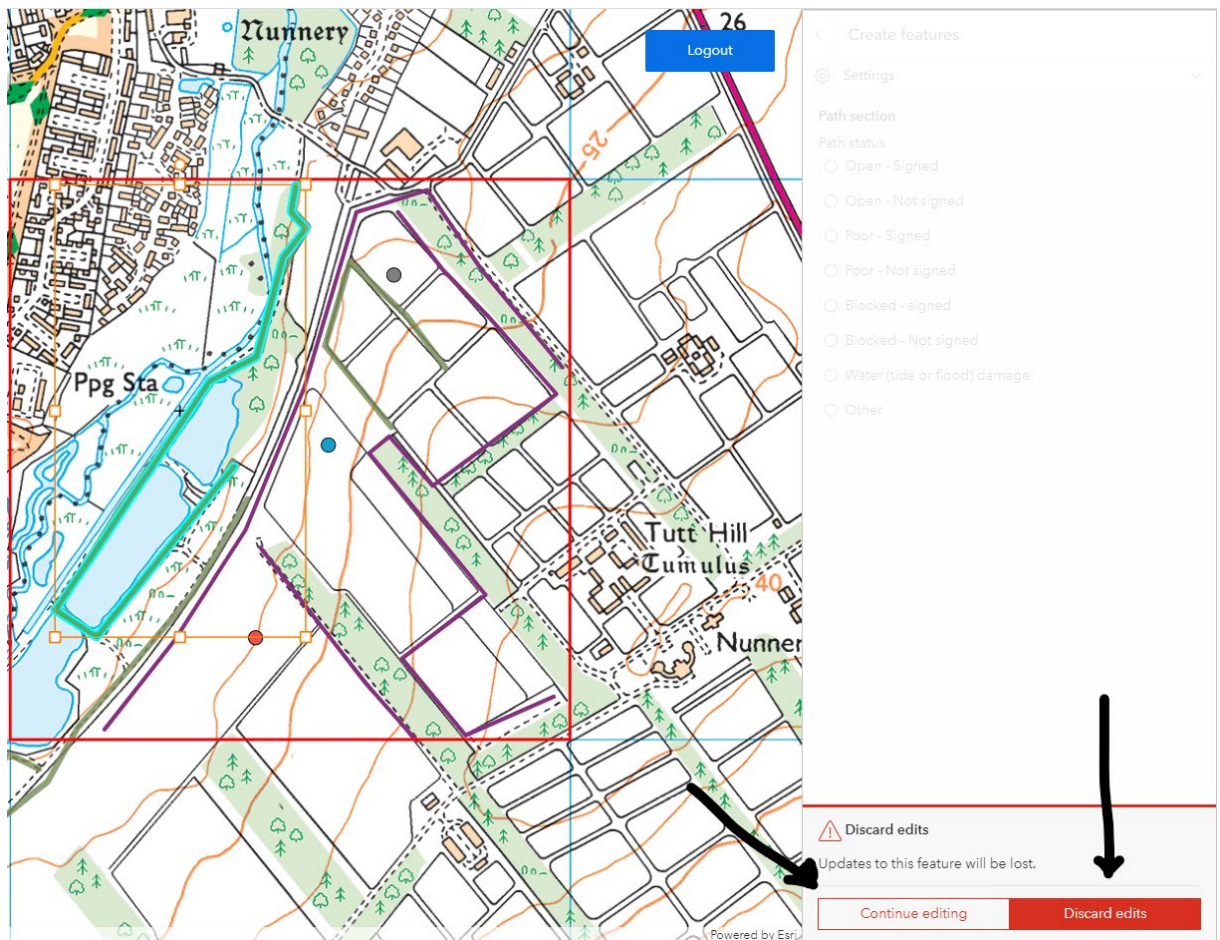
9. If you notice a mistake after you have pressed "Create", go back to the main menu and choose the top option of "Select". This will allow you to choose the transect, footpath or bird observation you want to edit, and provide the option to "Update" or "Delete" in the right hand menu. If you wish to remove this record entirely, press "Delete" again. If you are updating, correcting something in the selections you chose or need to move an observation press "Update" and then either change the information as needed or hover over the observation, click and move it to a new location. Once this is done the "Update" button will become a darker blue and you can press on it to update the record.
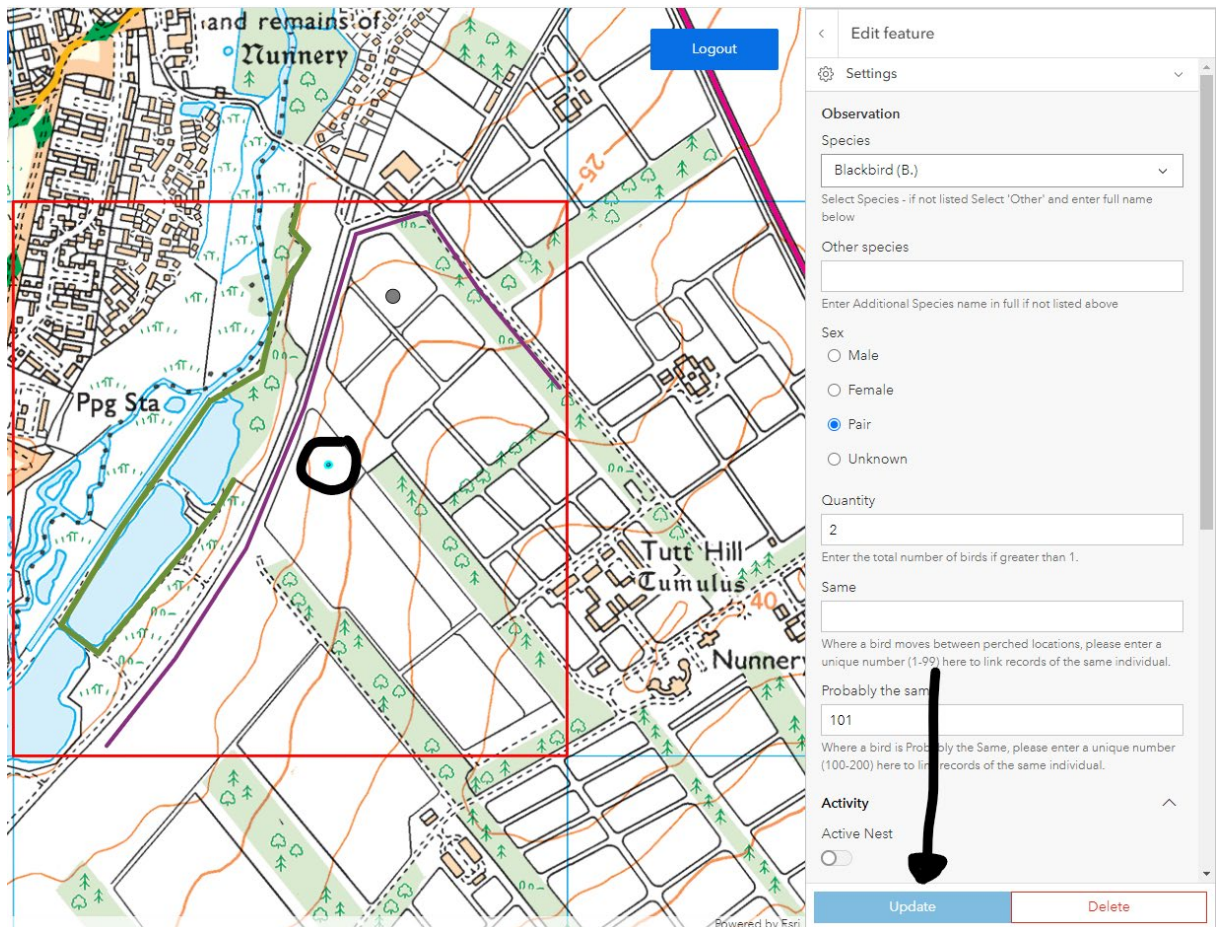
10. Once you are finished, either entirely or just for your data entry that day. Make sure your last edits have been "Created" and press "Logout".

3   Annex: BTO Species Codes

BTO SPECIES CODES

Code	Species	Code	Species	Code	Species	Code	Species
AC	Arctic Skua	GA	Gadwall	LE	Long-eared Owl	SM	Sand Martin
AE	Arctic Tern	GX	Gannet	LT	Long-tailed Tit	SS	Sanderling
AV	Avocet	GW	Garden Warbler	MG	Magpie	TE	Sandwich Tern
BO	Barn Owl	GY	Garganey	MA	Mallard	VI	Savi's Warbler
BY	Barnacle Goose	GC	Goldcrest	MN	Mandarin Duck	SQ	Scarlet Rosefinch
BA	Bar-tailed Godwit	EA	Golden Eagle	MX	Manx Shearwater	SP	Scaup
BR	Bearded Tit	OL	Golden Oriole	MR	Marsh Harrier	CY	Scottish Crossbill
BS	Berwick's Swan	GF	Golden Pheasant	MT	Marsh Tit	SW	Sedge Warbler
BI	Bittern	GP	Golden Plover	MW	Marsh Warbler	NS	Serin
BK	Black Grouse	GN	Goldeneye	MP	Meadow Pipit	SA	Shag
TY	Black Guillemot	GO	Goldfinch	MU	Mediterranean Gull	SU	Shelduck
BX	Black Redstart	GD	Goosander	ML	Merlin	SX	Shorelark
BJ	Black Tern	GI	Goshawk	M.	Mistle Thrush	SE	Short-eared Owl
B.	Blackbird	GH	Grasshopper Warbler	MO	Montagu's Harrier	SV	Shoveler
BC	Blackcap	GB	Great Black-backed Gull	MH	Moorhen	SK	Siskin
BH	Black-headed Gull	GG	Great Crested Grebe	MS	Mute Swan	S.	Skylark
BN	Black-necked Grebe	ND	Great Northern Diver	N.	Nightingale	SZ	Slavonian Grebe
BW	Black-tailed Godwit	NX	Great Skua	NJ	Nightjar	SN	Snipe
BV	Black-throated Diver	GS	Great Spotted Woodpecker	NH	Nuthatch	SB	Snow Bunting
BT	Blue Tit	GT	Great Tit	OP	Osprey	ST	Song Thrush
BU	Bluethroat	GE	Green Sandpiper	OC	Oystercatcher	SH	Sparrowhawk
BL	Brambling	G.	Green Woodpecker	PX	Peafowl/Peacock	AK	Spotted Crake
BG	Brent Goose	GR	Greenfinch	PE	Peregrine	SF	Spotted Flycatcher
BF	Bullfinch	GK	Greenshank	PH	Pheasant	DR	Spotted Redshank
BZ	Buzzard	H.	Grey Heron	PF	Pied Flycatcher	SG	Starling
CG	Canada Goose	P.	Grey Partridge	PW	Pied Wagtail	SD	Stock Dove
CP	Capercaillie	GV	Grey Plover	PG	Pink-footed Goose	SC	Stonechat
C.	Carrion Crow	GL	Grey Wagtail	PT	Pintail	TN	Stone-curlew
CW	Cetti's Warbler	GJ	Greylag Goose	PO	Pochard	TM	Storm Petrel
CH	Chaffinch	GU	Guillemot	PM	Ptarmigan	SL	Swallow
CC	Chiffchaff	FW	Guineafowl (Helmeted)	PU	Puffin	SI	Swift
CF	Chough	HF	Hawfinch	PS	Purple Sandpiper	TO	Tawny Owl
CL	Cirl Bunting	HH	Hen Harrier	Q.	Quail	T.	Teal
CT	Coal Tit	HG	Herring Gull	RN	Raven	TK	Temminck's Stint
CD	Collared Dove	HY	Hobby	RA	Razorbill	TP	Tree Pipit
CM	Common Gull	HZ	Honey Buzzard	RG	Red Grouse	TS	Tree Sparrow
CS	Common Sandpiper	HC	Hooded Crow	KT	Red Kite	TC	Treecreeper
CX	Common Scoter	HP	Hoopoe	ED	Red-backed Shrike	TU	Tufted Duck
CN	Common Tern	HM	House Martin	RM	Red-breasted Merganser	TT	Turnstone
CO	Coot	HS	House Sparrow	RQ	Red-crested Pochard	TD	Turtle Dove
CA	Cormorant	JD	Jackdaw	FV	Red-footed Falcon	TW	Twite
CB	Corn Bunting	J.	Jay	RL	Red-legged Partridge	WA	Water Rail
CE	Corncrake	K.	Kestrel	NK	Red-necked Phalarope	W.	Wheatear
CI	Crested Tit	KF	Kingfisher	LR	Redpoll (Lesser)	WM	Whimbrel
CR	Crossbill (Common)	KI	Kittiwake	RK	Redshank	WC	Whinchat
CK	Cuckoo	KN	Knot	RT	Redstart	WG	White-fronted Goose
CU	Curlew	LM	Lady Amherst's Pheasant	RH	Red-throated Diver	WH	Whitethroat
DW	Dartford Warbler	LA	Lapland Bunting	RE	Redwing	WS	Whooper Swan
DI	Dipper	L.	Lapwing	RB	Reed Bunting	WN	Wigeon
DO	Dotterel	TL	Leach's Petrel	RW	Reed Warbler	WT	Willow Tit
DN	Dunlin	LB	Lesser Black-backed Gull	RZ	Ring Ouzel	WW	Willow Warbler
D.	Dunnock	LS	Lesser Spotted Woodpecker	RP	Ringed Plover	OD	Wood Sandpiper
EG	Egyptian Goose	LW	Lesser Whitethroat	RI	Ring-necked Parakeet	WO	Wood Warbler
E.	Eider	LI	Linnet	R.	Robin	WK	Woodcock
FP	Feral Pigeon	ET	Little Egret	DV	Rock Dove (not feral)	WL	Woodlark
ZL	Feral/hybrid goose	LG	Little Grebe	RC	Rock Pipit	WP	Woodpigeon
ZF	Feral/hybrid mallard type	LU	Little Gull	RO	Rook	WR	Wren
FF	Fieldfare	LO	Little Owl	RS	Roseate Tern	WY	Wryneck
FC	Firecrest	LP	Little Ringed Plover	RY	Ruddy Duck	YW	Yellow Wagtail
F.	Fulmar	AF	Little Tern	RU	Ruff	Y.	Yellowhammer

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